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# The Future of the Euro: Assessing the Viability of the Common Currency through the Lens of Classical Optimum Currency Area Theory

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## I. INTRODUCTION

The Eurozone, it appears, is in a constant state of crisis. While other major economic players have mainly recovered from the 2008 Global Financial Crisis, the Eurozone as a whole seems to have never escaped the economic malaise caused by that dreadful event. Perhaps more startling is the divergence seen within the Eurozone itself, as a few relatively wealthier, healthier members such as Germany and Austria pull away from the larger pack of poorer, languishing ones, such as Greece and Portugal. A currency union should be effective and cohesive, yet the Eurozone has been largely ineffective and fragmented in handling the recent onslaught of crises. Why is this the case, and what is it about the organization of the euro itself that has lead to these outcomes? To answer these sorts of questions, this paper will take as its starting point Robert Mundell's seminal work on Optimum Currency Area (OCA) Theory in 1961, along with subsequent criteria outlined in line with this theory (Kenen, McKinnon) in order to utilize a particular lens through which one might approach and analyze the Eurozone's current troubles. The classical OCA Theory offers seven different criteria that qualify economic areas as fit for sharing a common currency. This paper will reveal that understanding one criterion, the incidence of asymmetric shocks, is critical to deciphering Europe's most pressing problems, which can be mitigated by two other OCA criteria that function as shock absorbers: labor mobility and fiscal integration. While returning to the 1960s to solve highly contemporary problems may seem counterintuitive, this rather original method provides particular insights on the Eurozone's difficulties that may have otherwise been overlooked, and also furnishes a rich intellectual exercise in the theory and its application. The structure of this paper is as follows: (1) I will review the pillars of classical OCA Theory, as first put forth by Mundell, McKinnon, and

Kenen; (2) discuss the various criteria by which these theorists define the Optimum Currency Area and identify those that are most critical; (3) touch upon briefly the presence of asymmetry in the Eurozone; (4) discuss Eurozone labor mobility in-depth; (5) analyze the depth of fiscal integration within the Eurozone; and finally, (6) offer some concluding remarks concerning the future viability of the euro.

## II. ANALYSIS OF THE THEORY

The literature concerning this topic can be broken down into roughly two categories: (1) classical OCA theory as defined by Mundell, McKinnon, and Kenen (which I will emphasize), and (2) adjustments to and application of the theory with respect to the European experience. As shall become evident, the debate concerning OCA Theory is wide ranging and diffuse, yet also centers around a few key economists such as Mundell and McKinnon who will return to the discussion as their arguments evolve.

### I. Classical OCA Theory

While Robert Mundell may not have been the first to examine the appropriate jurisdiction and external arrangements of a currency, he is widely considered to be the father of a more precise theory, that of the Optimum Currency Area (OCA), and the champion of its classical development in the 1960s. His 1961 paper on the topic is the basis for the development of a strain of economic theory that can help us analyze through a unique lens the very complex monetary questions of the mid-20$^{th}$ century up to the present day.

Mundell presents as his starting point a balance-of-payments issue that is bound to arise consistent given the current international monetary system of fixed exchange rates and rigid wage and price levels. These factors have impeded that terms of trade from "fulfilling a natural role in the adjustment process" (Mundell, 1961). Thus, Mundell sees a system that, while functional, is failing to reach a healthy, self-corrective equilibrium. The most obvious solution is a system of national currencies connected by fluctuating exchange rates, in which depreciation takes the place of unemployment during external balance deficits and appreciation occurs instead of inflation during times of surplus. This seemingly elegant and straightforward solution, however, has much larger implications, and demands interrogation: should all currencies float freely, and, if not, whose currencies should fluctuate against one another versus those that remain tightly pegged. And furthermore, in the context of European integration, is a common currency preferable to a system of fixed exchange within the bloc? At the heart of this matter lies the ultimate question: "What is the appropriate domain of a currency area?"

Mundell illustrates the two situations in which the burden of adjustment to balance-of-payments disequilibria falls on either the surplus or deficit area, depending on the underlying currency system. In the example of fluctuating national currencies, the central bank of a surplus nation will move to raise interest rates to stem inflationary pressures, meaning the burden of adjustment falls on the deficit nation to cut prices, resulting in higher unemployment. On the other hand, the central bank of a single currency across an uneven economic terrain has the ability to set the pace of inflation in its willingness to allow unemployment in deficit regions. In this second case, expansionary monetary policy is used to attack unemployment while aggravating inflationary pressure in the surplus region. Thus, the central bank of a currency area

must make familiar decisions in choosing between unemployment and inflation, which inevitably favors certain pockets of their jurisdiction over others.

In some cases, then, currencies might better correspond to real economic activity and phenomena that are transnational yet not wholly applicable to, say, a national boundary. Mundell gives as an example the United States and Canada. The two have their own currencies that fluctuate against one another, but they also have similar, geography based divisions within their own diverse economies; the East produces cars, while the West produces lumber. Mundell disrupts his equilibrium by adding a technological change to the automotive industry that creates surplus cars, and a shift in demand to the West's lumber. Unemployment rises in the East, both in Canada and the US, while inflationary pressures build in the West. The central banks of each country must make decisions based on the Phillips Curve trade-off between inflation and unemployment, unable to tackle both using monetary policy. Meanwhile, the US and Canadian dollars continue to fluctuate against one another, failing to offset, however, the imbalances between East and West. This example demonstrates a case in which the management of two, disparate economic regions is improperly assigned or connected to a single jurisdiction, political rather than economic in nature. A single currency for the East and another for the West would provide a more appropriate division of management in which the central bank of each region could more aptly respond to balance-of-payments and other issues. Furthermore, the East-West exchange rate would fluctuate according to real underlying economic movements, ensuring, along with monetary policy adjustments, the functionality of an elegant and automatic system that returns to equilibrium. Thus, Mundell states, "Today, if the case for flexible exchange rates is a strong one, it is, in logic, a case for flexible exchange rates based on regional currencies, not on national currencies. The optimum currency area is the region."

Defining the appropriate region, then, is the next task. In short, the stipulations Mundell gives in this original iteration of OCA Theory are as follows,

(i.) “A domain within which exchange rates are fixed and asking: What is the appropriate domain of a currency area?”

(ii.) “An essential ingredient of a common currency, or a single currency area, is a high degree of factor mobility”

(iii.) Problem of asymmetric shocks and how they are mitigated—shock absorbers (capital, labor mobility, fiscal transfers, etc.) in lieu of Monetary policy, which is universal and can only respond to symmetric shocks.

Mundell shifts his discussion to a more practical application of his arguments, in which he draws on current events in Western Europe to demonstrate the relevance of OCA theory. Even at the time of writing in 1961, many asked how mobile must labor actually be to fulfill this defining requirement of the optimum currency area. Some argued that by this metric Western Europe was disqualified, while others acknowledged the need for improvement in both labor and capital mobility yet did not find such challenges insurmountable. Mundell then clarifies his argument to make explicit his disinterest in advocating for the “balkanization” of the world into smaller currency areas. He recognizes the potentially high costs of currency translation, thin currency markets, and reduced liquidity value of such a fragmented arrangement. Mundell’s early contribution to this previously underdeveloped concept would prove to be, as we shall see, quite catalyzing to this vein of economic thought.

In a response to Mundell, whose paper had caused much activity in the wider community of economists, Ronald McKinnon critiques and expands the criteria of optimality in a currency area. Optimum, he states, refers to a single currency area within which monetary-fiscal policy

and flexible external exchange rates can accomplish the following: (i.) an economy at full employment, (ii.) a balanced international payments account, and (iii.) a stable internal price level.

McKinnon constructs a relatively straightforward model in which there are two actors, a small currency area and a much larger one. The main factor that should determine a currency regime in the case of the small currency area is its composition between what McKinnon calls "tradable" and "non-tradable" goods—products that have the potential for import/export versus those that, for various factors, must remain within the domestic economy. The tradable goods are most influenced by external price setting by the larger actor, i.e. global market prices, via existing exchange rates, and are less affected by domestic economic policy. On the other hand, non-tradable goods find their pricing endogenously, and are therefore more sensitive to fiscal-monetary policy action, while less influenced by foreign pricing. This phenomenon is relatively easy to observe even in the much more complex economic reality in which we live: the prices of many commodities are global and market-driven, while the compensation for certain services are very closely tied to the country, province, or even city/town in which they are performed. Thus, the terms of trade are largely immune to domestic economic policy when prices of tradable goods are set externally.

There are two ways, then, that a trade balance can be maintained: (a,) external exchange rate flexibility, or (b,) internal fiscal-monetary policy. McKinnon asks us to observe two cases in which the share of tradable to non-tradable goods varies, while testing each trade balance maintaining policy to see which works best.

In case 1, we are to consider a small domestic economy with a high share of imported and exported tradable goods and a low share of non-tradables, all operating under a flexible exchange

rate. If the domestic currency devalues by 10%, prices of imported and exported goods (tradable goods) will decrease to reflect this exchange rate shift. Production of tradables increases, while consumption of foreign goods decreases (as imports become relatively more expensive), thus correcting the balance of payments deficit. This fails to create a system that achieves objective (iii.), a stable internal price level, as the prices of non-tradable goods remain out of step.

In a more extreme case, one could consider a completely open economy, where all the prices of goods are determined externally. This would require, during periods of deficit, the reduction of all expenditures while output remains the same, yielding painful and potentially unacceptable bouts of unemployment. McKinnon concludes that as one moves across the spectrum from closed to open economies, exchange rate fluctuation becomes less effective and more damaging to internal price stability. If one adds the additional worry of speculative currency movements in a flexible exchange rate regime, fixed exchange rates become even more attractive. In short, exchange rate flexibility where prices are externally set necessarily forces reduction in expenditures or real income in order to improve the balance of trade.

In case 2, the share of non-tradable goods in a small economy is quite high. As the currency devalues 10% as it did in the first case, tradable goods similarly increase in price while having far less impact on the wider domestic economy. The exchange rate adjustments have now helped the international account balance by raising prices on tradable goods in order to induce their increased production. Meanwhile, using fiscal-monetary policy to correct the balance of payments deficit will severely affect the large, non-tradable goods sector, while providing little gain to tradables, and is therefore a non-existent policy tool.

Case 1 represents a “conflict economy,” in which exports are large enough to dominate the generation of domestic income. In a fixed exchange rate regime, times of low income yield

current account deficits, bringing about unemployment while maintaining price stability. In a floating exchange rate system, the trade effects on employment are minimalized, but at the expense of large price fluctuations.

There are many important monetary implications of McKinnon's model. If the currency area is large enough and is composed of enough non-tradable goods, pegging the value of the domestic currency to these non-tradables will supply sufficient monetary liquidity value to inhabitants and allow for saving and capital accumulation. In such a case, flexible exchange rates can then help the balance of payments without severely affecting domestic price stability.

Yet, if we consider a small currency area where tradable goods make up the bulk of the domestic economy, pegging the currency to non-tradables is a much less appealing option, as the basket to which the currency is pegged is atypical and inappropriate compared to the larger economy. This currency area must essentially peg the value of its currency to imports, or, in truth, to the foreign currency. To expand this case, consider a system of many small currency areas that trade extensively with one another. They will all peg their currencies to a similar basket of goods or, by extension, to one another's currencies. To maintain the perception of the liquidity value of said currencies, a fixed exchange rate will necessarily emerge. Capital movement becomes more necessary to promote specialization among this group of currency areas, and, as a consequence, a common currency will become more attractive.

If, on the other hand, we have a small currency area with an unconvincing peg to the larger external area(s), this currency's liquidity value is reduced. Savers naturally look to hold more liquid currencies, spurring domestic nationals of the small improperly pegged nation to horde foreign bank balances. In effect, smaller countries with weak currencies will finance the balance of payments deficits of larger countries with more desirable currencies. Capital outflows

will occur from countries that typically have a higher need for that capital, and authorities will be forced to institute strict exchange rate policies as well as potential capital controls.

By contrast, McKinnon argues, short-term capital outflows are much less frequent amongst small currency areas with perceived equal liquidity value in a floating exchange rate system. This yields monetary-fiscal policy supposedly more effective as capital is less responsive.

McKinnon then gives an example of these varying cases in West Virginia, asking if a separate currency might be appropriate in fixing various economic maladies. West Virginia is small and has an abundance of non-tradable goods expressed as labor unemployment. Giving West Virginia its own floating currency would do little to mitigate the balance of payments issues, as prices would be thought of and expressed relative to the dominant U.S. The currency could not be pegged to restrictedly internal activity (non-tradables), as this would not be accepted as an appropriate store and measure of value within the West Virginian economy. Yet, if West Virginia were larger, had a larger non-tradable sector, and, thus, carried weight in price setting, a separate currency may work to reach full employment and payments balance in the absence of factor mobility.

Finally, McKinnon wraps up his discussion by reaffirming that Mundell's criteria for internal factor mobility is accurate, if a bit simplified. McKinnon envisions a case where factor mobility inter-industry also plays an important role in determining currency area optimality.

In his now seminal paper, presented in 1966 at a Conference at the University of Chicago, Peter Kenen responds to both Mundell and McKinnon in their attempts to construct (or deconstruct) the various criteria for the optimality of the currency area. It is, along with the other

two, considered a foundational or classical text of OCA Theory, from which the following and contemporary debates on the subject are derived.

Kenen initiates his discussion with an overview of Mundell's original arguments. He highlights specifically Mundell's stripped down East-West model, in which either half of the US and Canada has similar economic compositions that appear to call for separate, non-politically expressed currency jurisdictions. In this example, however, Mundell continued beyond this East-West division and proposed that with sufficient labor mobility between the two, these countries could form an optimum currency area, as labor offsets current account imbalances. Kenen takes issue with this, however, stating, "when regions are defined by their activities, not geographically or politically, perfect interregional mobility requires perfect occupational mobility. And this can only come about when labor is homogenous (or the several regions belonging to a single currency area display very similar skill requirements)" (44). This will be among the first of many issues to arise concerning Mundell's insistence on labor mobility's ability to bring about balance in international payments. And this also calls to attention that under these assumptions a currency area must be always be small, so as to be "coextensive with the single-product region" (44). However, the proposition of such a multitude of areas and corresponding currencies is highly unattractive, especially given McKinnon's addition of the necessity for stable-valued liquid currency. He points out the potential susceptibility of such an arrangement to erratic exchange rate fluctuations, thin currency markets that offer little liquidity, and higher transaction costs.

Kenen then shifts his argument to consider "economic sovereignty," something he believes has been insufficiently explored by Mundell and McKinnon. He states, "[f]iscal and monetary policy must go hand in hand, and if there is to be an 'optimum policy mix,' they should

have the same domains. There should be a treasury, empowered to tax and spend, opposite each central bank" (45). This statement reverberates through the decades since, resonating with extreme prescience given the subsequent developments towards monetary union in Europe. Kenen highlights a variety of issues governments might run into were the fiscal policy jurisdiction larger than that of the monetary structure (which, of course, is just the opposite of the case in Europe today.) He then discusses the benefits that a number of small single-product regions might reap if they were managed under one centralized fiscal system. He states,

> If, further, a fiscal system does encompass many such regions, it may actually contribute to internal balance… it is a chief function of fiscal policy, using both sides of the budget, to offset or compensate for regional differences, whether in earned income or in unemployment rates. The large-scale transfer payments built into fiscal systems are interregional, not just interpersonal, and the rules which regulate many of those transfer payments relate to the labor market, just like the criterion Mundell has employed to mark off the optimum currency area. (47)

The implications of this argument are hard to overstate. He concludes that a fiscal system "should be coextensive with (or no larger than) a single, if non-optimal, currency area" (47-8). Kenen goes further than Mundell and McKinnon in asking, if the optimum currency area is undetermined, so too is the fiscal area, which should be aligned to the former. In adding the level of fiscal integration to the OCA criteria, Kenen opened up the debate further, asking that one consider both fiscal and monetary jurisdictions as more than just expressions of political sovereignty.

Kenen stipulates another set of criteria for optimality related to economic diversification. He argues that a more diversified economy is less prone to exogenous, balance of trade shocks, and therefore, when a reduction in demand for said country's exports occurs, is less likely to experience "imported" unemployment. Furthermore, the links in such a diversified economy between external and internal demand will be weaker, serving to blunt the aggregate affects of both positive and negative shifts in exports, rather than reinforce external movements within the domestic economy, as is often the case in less diversified economies.

Kenen concludes finally by suggesting that fixed rates are most appropriate to well-diversified economies, serving to average out shocks, stabilize domestic capital formation, minimize damages in the external account, and maximize the potential for labor mobility. He makes one final, precautionary requirement, "[c]ountries with fixed rates have also to be armed with potent and sophisticated internal policies" (54). There is no doubt that Kenen contributed massively to the development and our collective understanding of the potential optimum currency area.

## II. Adjustments and Application

In his pivotal paper in 1969 (published in 1973), Mundell returns to the debate and moves out of the theoretical foundation he laid almost a decade prior to comment on the current state of the international monetary and financial system, particularly in relation to Europe. In the present situation (1969), all European Economic Community exchange rates and units of account are essentially quoted in terms of US dollars. The dollar exchange rate is calculated and fixed, supposedly, based on the gold content of say the franc versus that of the dollar. However, markets operate under the supply and demand of a particular currency, driving its value in

various directions, prompting central banks to intervene in currency markets to maintain exchange rates within a narrow band of fluctuation. European currencies, each having a relatively fixed exchange rate to the US dollar, are also then fixed to one another. If one Italian lira is equal to X amount of US dollars, and the French franc Y amount of dollars, then the lire-franc exchange rate is X relative to Y. European currencies are pegged to one another through a US dollar intermediary, which is providing the basis for tighter European economic integration.

The pervasiveness of the US dollar in their own jurisdictions is at present a complicated reality for European central banks. In considering questions of balance of payments, one observes the necessity of European central banks to hold adequate US dollar reserves and intervene in their own currency markets to react to that which threatens to change the current exchange rate arrangement. If the central bank allows too much fluctuation in its reserves, which may be a necessary phenomenon, markets become skeptical of the durability and likelihood of the central bank's commitment to its stated monetary policy, out of which arises speculation and further pressure on said currency. In such a system, central banks can either fix the money supply and allow the price to fluctuate, or they can fix the price of money and adjust the supply accordingly—all major actors have opted for the latter. Yet, central bank action, regardless of arrangement (fixed or floating), can only mitigate the inherent weakness or susceptibility of a currency up to a point. In recent experience, Europe has suffered from misaligned fluctuations in exchange and interest rates that indicate a system in disorder, particularly in the case of fragmented and unstable financial markets, which has severely affected economic performance.

Europe, Mundell observes, is operating in a system that leaves its exchange rates, and by extension, its central banks, the "hostage of any monopolistic attack" (Mundell, 1969, pg. 5). Yet, to allow for wider fluctuation would upend the progress made toward deeper European

integration. It is not per se the current exchange rate arrangements that cause these enduring threats, but the current arrangement of the currencies themselves as assigned to their jurisdictions that are at fault. Mundell states,

> The larger the currency area the greater is the resistance of the exchange rate to any given economic disturbance. But the European currencies now cover too small a domain of contract and information to resist the social disturbances to which they maybe subject. The same argument holds with respect to the movements of funds controlled by the giant international corporations. A wider currency area; with the exchange rate taken out of politics, would ensure protection against disturbances arising in a world in which big companies, big labor unions and large international banks can threaten the viability of the national currency. (6)

Thus, the universe of small European currencies is, in fact, rendered incapable of governing the movements of the larger and more international economic and monetary system that has emerged in the post-war experience. European currencies, central banks, and even central governments are vulnerable to a system of which they are no longer at the center. Rather, it is the US dollar that has emerged as by far the dominant force, along with that nation's international banks and corporations. The incredible demand for US dollars, the value by which all relatively important economic actors now measure themselves, as well as the surge in Eurodollars facilitated by American financial behemoths, has, over the past few decades, undermined the monetary sovereignty of European states.

The solution to restoring monetary sovereignty to European governments, Mundell argues, lies within the creation of a European money. The major negative consequence of such a bold move, he is quick to note, is the loss of individual national sovereignty, of which currency is often the most important expression. Yet, he argues, when one observes the wider economic and political structure of the post-war world, it is clear that that sovereignty for Europe is already slipping. The question is whether this power should be ceded to the United States or rather a "common European enterprise" (10). Mundell goes on to formulate a rough draft for the creation of this common currency, including its political, social, legal, and economic justifications.

This paper is critical for a number of reasons. It is an important shift away from the theoretical discussions surrounding optimum currency areas, and suggests that the economic rationale for forming a currency area may exist beyond the rather limited initial criteria of OCA theory. Mundell also ultimately implicitly relies on McKinnon's argument that size of an economy (and its corresponding currency) is a critical criterion of optimality. Comparing the size of the US and its multinational actors with European ones, Mundell concludes that fixed exchange rates among smaller regions/nations in Europe can help counter structural vulnerability to the US's dominance.

It is in combining the theory and the geopolitical realities of the 1960s that one fully understands the path towards the euro, and why that path may have involved shirking the requirements of optimality in the short run in the interest of achieving other, longer term goals. That the euro may have arrived before meeting OCA criteria (due to aforementioned factors) helps one understand the contemporary European situation, and how Europe might move towards greater optimality in the future.

In 2002, McKinnon exposed what he believed were contradictory arguments inherent in the Optimum Currency Area Theory as first defined by Mundell, compared to his position and support for the creation of the euro. While Mundell clearly did not support the "balkanization" of the world's currency areas, his arguments, according to McKinnon, do suggest a movement towards smaller, more clearly defined currency areas derived from similar underlying economic factors. Yet, this would be inconsistent with Mundell's enthusiasm for the euro. In addition, concerning asymmetric shocks, it appears Mundell's view had shifted. One of his original criteria for optimality was the incidence of asymmetric shocks, and how they affected countries differently within the same bloc. If economic regions reacted severely differently to a shock, they did not meet the requirements for optimality and so, should not form a currency area. Later, however, Mundell argued that a common currency could help nations recover from asymmetric shocks by better reserve pooling and portfolio diversification. In that case, the currency area has already been formed under sub-optimal conditions, yet has the potential to, or effect of, making itself more optimal by smoothing out differences between members. The two cases, however, may not be so contradictory. Mundell believes a currency area can induce its own optimality endogenously, even if it may not have been optimal at the outset. McKinnon remained skeptical.

## III. METHODOLOGY

Through my own efforts, which are by no means exhaustive, I seek to assess the viability of the euro as it stands today, emphasizing the interplay between the currency's composition of disparate states and the structure of its supranational institutions. My analysis derives from a very specific branch of economic thought principally developed in the 1960s known now as

Optimum Currency Area (OCA) Theory, during which time a group of thinkers vigorously debated the "appropriate size of the currency area" based on various, and varying, criteria. This is known as formative or "classical" OCA Theory, which has already been discussed at length in the preceding section of this paper. At the time, its consequences were seemingly constrained to the theoretical realm, yet it is clear now that this strain of economic thought has become increasingly relevant in the mainstream given major economic, political and social change. Despite the explosion of literature on the topic since the classical period, particularly related to the euro, the debate has strayed far from the original theory. Thus, I will revisit the classical thinkers, Mundell, McKinnon, and Kenen, and apply their original criteria to the present day European situation. This method, aside from providing a rich intellectual experiment, will deliver insights overlooked by those lost in later iterations of and deviations from the original theory.

After a thorough reading of the classical OCA canon, I have produced these following criteria on which my analysis will be based:

- the degree of labor mobility relative to wage and price flexibility (Mundell)
- the impact of asymmetric shocks (Mundell)
- the degree of openness and/or trade integration (McKinnon)
- the size of an economy (McKinnon)
- the similarity of economic composition between two economies (Kenen)
- the degree of diversification within an economy (Kenen)
- the level of integration among fiscal jurisdictions (Kenen)

Having isolated these seven criteria, I will then divide them into two groupings based on their relation to the asymmetry qualification, from which the main substance of my analysis will be extracted. The criteria of focus will be systematically assessed using high-quality quantitative

and qualitative data. The sources for this assessment include official EU reports and databases, publications from reputable international organizations, and materials from external, private corporations. Data used in quantitative analyses primarily comes from Eurostat, the authority on European statistics developed and overseen by the European Commission. Policy-oriented discussion and conclusions, in view of the criteria assessment, are structured around the classical OCA texts and pivotal European Union/Eurozone documents such as the Maastricht treaty.

## IV. CRITERIA IN CORRESPONDENCE

The seven criteria set forth by the original classical OCA economists are clearly not pillars of their own separate importance, but rather form a cohesive body of requirements that are very much in correspondence with one another. The degree of an economy's openness or trade integration is surely linked to its degree of diversification, its size, and its overall economic composition. Labor mobility between two OCA nations is likewise heavily dependent on a variety of factors, such as the composition and openness of the two economies in question. Yet the most unifying, and indeed universal, of these criteria is the incidence of asymmetric shocks, the occurrence of which is both caused by and affects the nature of the other six criteria. Were the incidence of asymmetry sufficiently low within a given currency area, one could conclude that the currency area is sufficiently optimal without much consideration of the remaining criteria. For the classical OCA theorists, relatively high economic symmetry, or cohesion, across a currency area implies a high degree of optimality.

The central role of asymmetric shocks in classical OCA Theory is entirely fitting given the nature of the endeavor: to form the most appropriate monetary jurisdiction based on

underlying economic factors and forces rather than traditional political boundaries. Monetary policy is by definition "one size fits all"; it lacks the flexibility to attack precisely located pockets of inflation and/or unemployment within its mandated jurisdiction. It must rather pursue a global strategy that will correct inflation at the expense of employment, or vice-versa. Thus, the intra-currency area incidence of asymmetric shocks is perhaps the most difficult situation in which a central banker might find himself when setting policy, being forced to choose to remedy one particular conflagration while fanning the flames of another. This being considered, the focus on asymmetry in classical OCA Theory is, then, wholly logical.

The other six criteria are, as I shall elucidate, only truly relevant insofar as asymmetry is an active concern within the currency area in question. From this starting point, the primacy of asymmetry relative to the other criteria, one can reasonably extrapolate that a certain dichotomy exists within the six in relation to the asymmetry requirement: one grouping can be said to *qualify the heightened potential for* asymmetry, while the other can be said to *provide potential mitigation to* this asymmetry (see Table 1). Of these two groups, it is the latter group on which this paper is focused, and those criteria are: (1) the degree of labor mobility, and (2) the level of fiscal integration. Yet, before diving head-on into these two criteria for the remainder of this paper, it is worth discussing the other criteria as related to the incidence of asymmetric shocks in order to provide a richer foundation on which I will later build my argument.

Table 1

| |
|---|
| Group 1: Qualifying Asymmetry |
| - Openness or Trade Integration amongst members |
| - Size of an Economy |
| - Similarity of Economic Composition between members |
| - Degree of Diversification within an Economy |
| |
| Group 2: Mitigating Asymmetry |
| - Labor Mobility |
| - Fiscal Integration |

Degree of Openness/Trade Integration and Size

The degree of openness or trade integration amongst members is a criterion first posited by McKinnon. One can infer from McKinnon's discussion that nations sharing a common currency that are open and well-integrated with one another are less likely to suffer from asymmetric shocks than if they remained separate for a number of reasons. Economies with high shares of tradable goods and services have greater incentive to form currency areas, particularly in cases where the bulk of their trade activity occurs with neighbors of similar tradable-to-non-tradable compositions. There are the obvious benefits of this common currency, including increased liquidity value, augmented capital mobility, and greater stability in cross-border activity as well as the absence of "beggar-thy-neighbor" currency manipulation, all of which cut costs and improve trade integration amongst a group of nations already dependent on inter-regional trade. The shared currency also provides protection against speculative attacks on a nation's currency, were it to be free floating or loosely pegged, to which smaller, export-reliant nations are often vulnerable, meaning the realization of greater internal price stability (McKinnon, 1963). Such a currency arrangement among well-integrated trading nations also enhances business cycle synchronization and helps create a more efficient, unified single market. Nations joined under a common currency that trade little, that are in fact a series of fragmented markets, will experience a greater number of asymmetric shocks of greater severity. While intra-currency area trade flows may adjust as a natural reaction to an asymmetric shock, the absence of a floating exchange rate and independent monetary policy render the alleviation of such a problem much more difficult. That is to say, existing trade flows offer a descriptive qualification rather than prescriptive remedy of asymmetry.

The auxiliary requirement to the openness criterion is the size of an economy. One will note that the aforementioned benefits to a common currency against the incidence of asymmetric shocks apply most fittingly to smaller nations, which typically have higher shares of tradable to non-tradable goods. McKinnon envisions a case in which small areas that trade extensively with one another form a single currency area. These small economies were already, in a sense, price takers given their size and highly export-driven compositions, whose goods and services are priced according to a larger international market in a currency or currencies of larger areas rather than their own domestic currencies. For these nations, "the terms of trade will necessarily be immune to domestic economic policy" in smaller nations (McKinnon, 1963). Thus, the formation of a single currency area is particularly beneficial to a group of small, open nations that are each other's primary trade partners, helping to reduce the vulnerability to specific, targeted shocks.

### Similarity of Economic Composition

The similarity of economic composition, a criterion Kenen added, also renders the incidence of asymmetric shocks less, insofar as it promotes the functioning of a critical shock absorber: labor mobility. The justification for this requirement is relatively straightforward. Labor can only be transnationally mobile if the opportunities lost in the industry or sector of one nation exist elsewhere within the common currency jurisdiction. The similarity in economic composition need not tend towards identical, but instead must allow the excess labor of one nation to adequately deploy itself in those regions experiencing labor shortages with relative ease. Thus, one hundred Frenchmen laid off at a Peugeot factory in Strasbourg might easily find employment at the large Volkswagen factory in Stuttgart. The transition from unemployment to

reemployment is made relatively easier as the abundance of such opportunities exist across a geographic (and economic) region. Yet, an excess of gondoliers in Venice may find themselves out of luck should they try to find opportunities in nearby Austria. Labor is not homogenous, and while labor mobility is partially reliant on its ability to adapt (see section VI for a more expanded discussion on skill mismatches and other impediments to labor mobility), the existence of similar inherent economic compositions adds greatly to the cohesion, and therefore optimality of a currency area (Kenen, 1966). It is important to note that this criterion helps qualify the potential for asymmetric shocks as it relates to the effectiveness of labor mobility, yet is not a solution to the shocks itself. Currency area policymakers and economic actors cannot will two economies to structure themselves more similarly so as to alleviate sharp GDP contractions or high inflation specific to one country or region. Economic composition as a criterion is then the indication rather than the mitigation of asymmetry.

Degree of Diversification

Kenen posited the importance of domestic/national economic diversification as a key determinant of optimality by reducing the potential number and severity of asymmetric shocks. Kenen argues three major points to support his theory that diversification at the national level is a critical requirement across a potentially multi-nation currency area. First, he states, “a well-diversified national economy will not have to undergo changes in its terms of trade as often as a single product national economy” (Kenen, 1966). This is relatively straightforward. A nation that involved in a variety of activities is more likely to have a varied mix of exports, and is therefore less vulnerable to the likelihood of sector specific shocks. Secondly, Kenen argues, “that when, in fact, it [the nation] does confront a drop in the demand for its principal exports, unemployment

will not rise as sharply as it would in a less-diversified national economy" (Kenen 1966). While his first point discusses the likelihood of shocks, Kenen here adds a corollary: in a well-diversified economy, the severity of shocks will be significantly mitigated. For example, if a nation is highly concentrated in the production of oil and a new way to extract a cleaner and more efficient energy source is suddenly developed, that nation will suffer a severe shock as the price of oil plummets. A neighboring country whose economy depends much less on oil exports will tend to fair better. While the latter's oil production will be affected, sufficient product diversification within the economy will "shield the labor force from this class of shock" (Kenen, 1966), and greatly reduce the risk of inducing larger business cycle shifts. Thirdly, "the links between external and domestic demand, especially the links between exports and investment, will be weaker in diversified national economies" (Kenen, 1966). A sufficiently diversified economy is more independent of, and less vulnerable to, fluctuations in the international macroeconomic environment. Having highlighted the importance of diversity in output, it is important to note that Kenen saw these attributes as critical at the national level. He is concerned less with the overall diversification of the single currency area formed (though this may be important as well), and more so will the diversification within each member state's economy. Thus, according to Kenen, the greater the diversity in nations' product mixes, the more optimal the currency area formed amongst them.

Having established the auxiliary and descriptive nature of the above four criteria, it now becomes critical to analyze and apply the theory of the two that remain, which are the "mitigating" criteria. According to classical OCA Theory, it is labor mobility and fiscal integration that provide the most powerful and most targeted weapons to localized or concentrated economic malaise, depending on the type of shock at hand. It is therefore the task

of this paper to first briefly define and depict the Eurozone's contemporary asymmetry (particularly focusing on the period including and since the 2008 Global Financial Crisis) and then assess the current situation concerning asymmetry's theoretical remedies, that of labor mobility and of fiscal integration. As it is not the express objective of this paper to analyze and interrogate the widely accepted view of persistent Eurozone asymmetry, I will touch upon only briefly some key indicators of this asymmetry so as to then drive towards the main substance of this paper.

## V. ASYMMETRY IN THE EUROZONE

The signs of European asymmetry are hard to miss. Most major gauges of economic health and performance point to a dismal divergence amongst Eurozone members in the aftermath of the Global Financial Crisis, as certain nations face severe contraction, rising unemployment, and crippling indebtedness while at the same time others expand (if only moderately), maintain low levels of unemployment, and keep debt well under control. These indicators all point to a Eurozone that, when faced with a relatively general shock (the Global Financial Crisis), reacted in a variety of different ways, leading to what one could aptly call an assortment of country-specific—and therefore by definition, asymmetric—shocks within the single currency area. German exports collapsed and then experienced a swift resurgence, while Spain suffered an implosion in its long bubbling housing sector, causing sustained economic hardship. Greece devolved repeatedly into successive sovereign debt crises, from which it seems to have still not fully escaped (Lin, 2016). Returning again to the aforementioned gauges, real GDP growth, unemployment, and indebtedness, a clear division amongst Eurozone nations presents itself with painful clarity (Figures 1, 2, 3).

These figures point to dramatic divergences in the trajectory of Eurozone nations, revealing divisions that are at once lamentable and yet all too familiar in the European discourse of almost the past decade. Germany, Austria, and Belgium, along with perhaps the Netherlands (not pictured), have managed moderate real GDP growth, relatively low unemployment, and a stable level of indebtedness despite the difficult economic climate on the continent. By contrast, toxic combinations of sharp GDP contraction, high unemployment, and skyrocketing debt have afflicted Italy, Spain, Portugal, Ireland, and Greece. The asymmetric reverberations of a supposedly initially symmetric shock, the Global Financial Crisis, have turned into asymmetric shocks in their own right, continuing to drive wedges amongst members of the common currency. The monetary conundrum is, therefore, excruciatingly applicable: monetary policy cannot remedy the unraveling, dual in nature, occurring within its own jurisdiction, and policy makers must instead look to other mitigating factors to heal to the Eurozone and ensure its future viability. According to classical OCA Theory, it is labor mobility and fiscal integration that can perform this function.

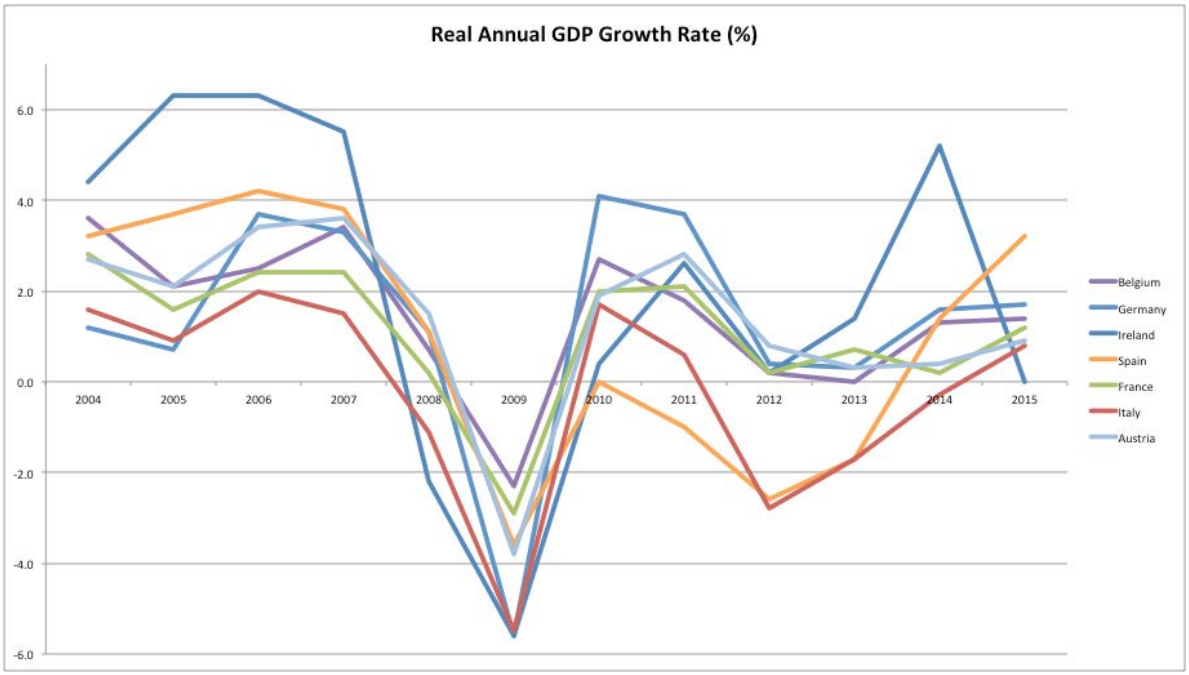


Figure 1 (Source: Eurostat)

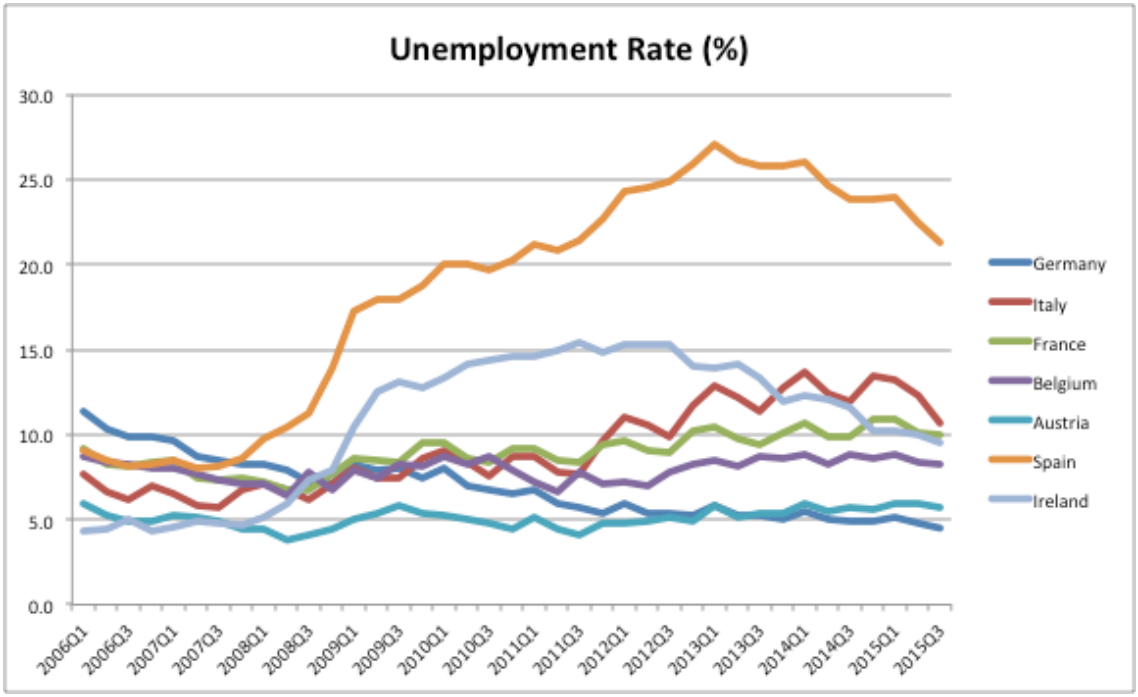


Figure 2 (Source: Eurostat)

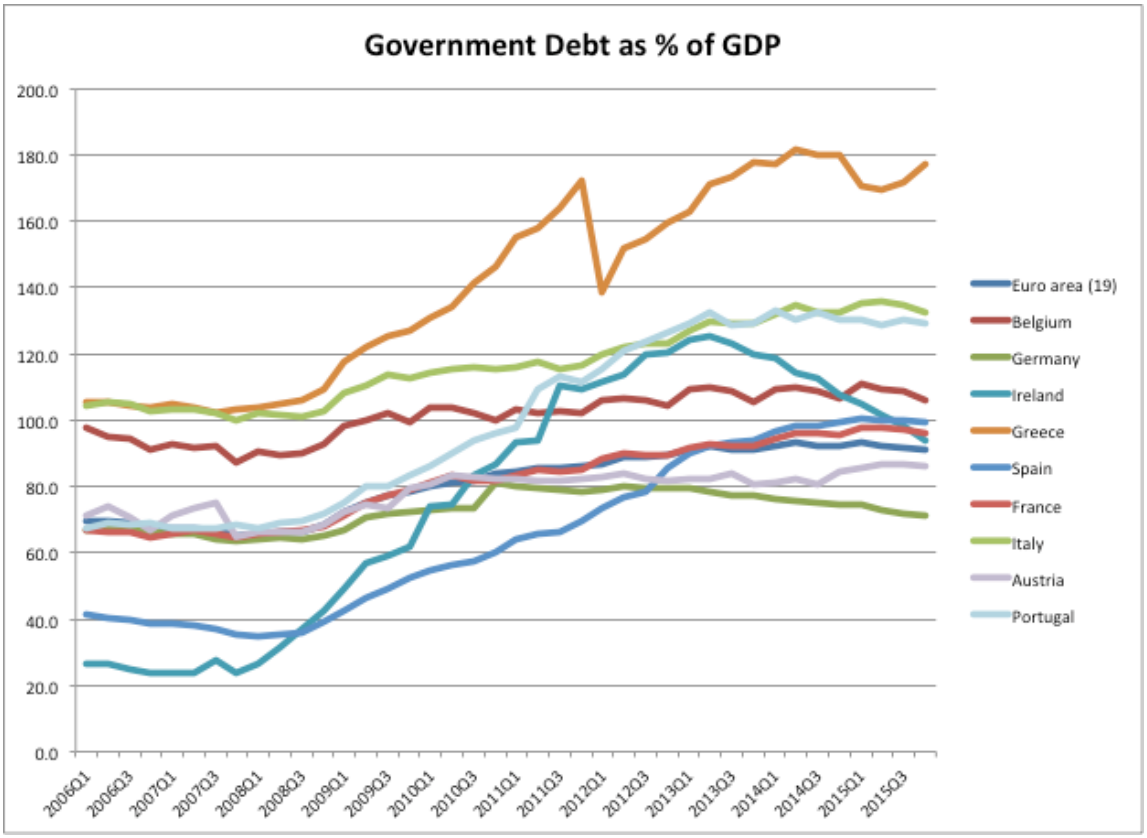


Figure 3 (Source: Eurostat)

## VI. LABOR MOBILITY

*"An essential ingredient of a common currency, or a single currency area, is a high degree of factor mobility" (Mundell, 1961)*

### A. The Theory

Classical OCA Theory dictates that factor mobility, particularly the labor component, has the capacity to smooth and bring to equilibrium intra-area business cycles that are out of sync. While factor mobility refers to both capital and labor, it becomes clear that labor has been the more difficult of the two to achieve, and so, warrants more intense analysis. In his seminal 1961 paper "A Theory of Optimum Currency Areas," Mundell discusses how countries may address current account surpluses or deficits relative to their neighbors with whom they share in reciprocal relationships. In a system in which each country possesses its own national currency with fixed exchange rates, the burden of adjustment falls on the deficit nation, whose national income must necessarily shrink to become once again competitive, while the surplus nation will try to suppress prices and maintain competitiveness. This implies a decrease in prices and wages in the deficit nation, the severity of which is dictated by the size of the deficit, leading to unemployment. In a single currency area, the burden of adjustment is decided by monetary authorities whose jurisdiction covers both the surplus and deficit regions, meaning authorities must either (a) allow for unemployment in the deficit region by maintaining relatively staid monetary policy, or (b) induce inflation in the surplus region in the attempt to pursue full-employment by increasing the money supply (Mundell, 1961).

Given the observed reality of monetary authorities' tendency to pursue inflation-regulating policies, it is most often the burden of deficit nations in the currency area to suppress wages and undergo a painful deflationary process in which they render themselves more competitive relative to surplus nations, whose prices and wages are rising. This particularly costly rebalancing of the terms of trade can be avoided, however, through what Mundell and others call internal factor mobility. When, within a single currency area, one region is in surplus and another is in deficit, labor in particular can function as a powerful mitigating factor to smooth the performance of each, while crucially preserving the area's internal price stability. The excess labor (unemployment) generated in the deficit region, if sufficiently mobile, can make up for the shortage (expressed in rising wages) present in the surplus region. The elegance of this solution lies in the absence of policy intervention, monetary or fiscal. Thus, within an optimally drawn jurisdiction of a currency, monetary expansion or contraction is theoretically less likely to be resorted to in times of crises. Labor mobility can then function as a more suitable and precise shock absorber or reflex to an asymmetric crisis than can monetary policy, which is clumsily "one-size-fits-all" and thus involves a painful yet familiar Phillips curve trade-off between inflation and unemployment.

B. The European Reality

If labor were sufficiently mobile, it would be responsive to larger movements in economic performance within the currency area, seeing opportunity in one region, while recognizing the lack thereof in another. In constructing a rather simple survey of European labor mobility and sensitivity to economic conditions, one can look at the share of foreign European Union (EU-28) nationals active in a host nation's labor market, while also analyzing the

economic performance (as measured by GDP growth and national unemployment rate) of that nation. While clearly not all EU-28 nations are members of the Eurozone, they represent potential future additions to the euro and under the now long established Single Market Programme (SMP) comprise the whole of the wider "European labor market," and thus, are included in this analysis.

Figure 4 (below) shows the seven nations within the Eurozone that have the largest active populations of foreign EU-28 Europeans between the ages of 15 and 64. These same nations, with the exclusion of highly irregular Luxembourg (46% of its labor force being of the studied

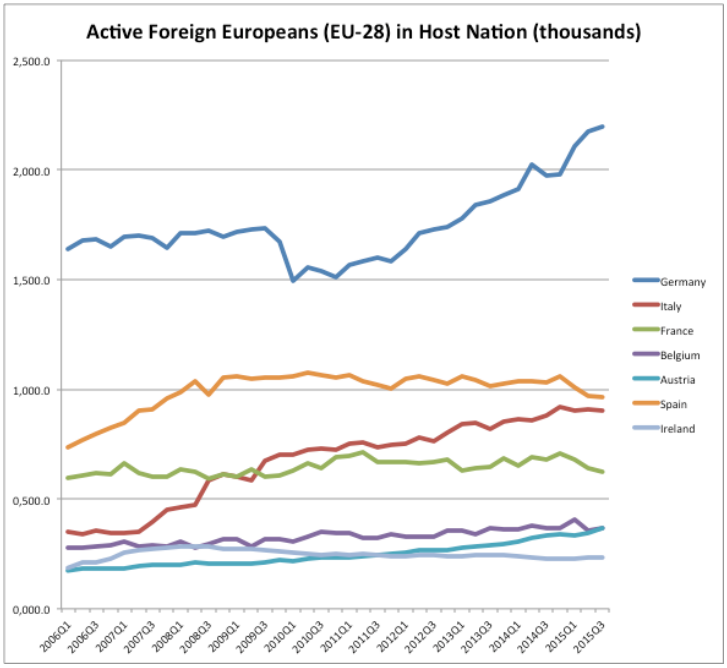


Figure 4 (Source: Eurostat)

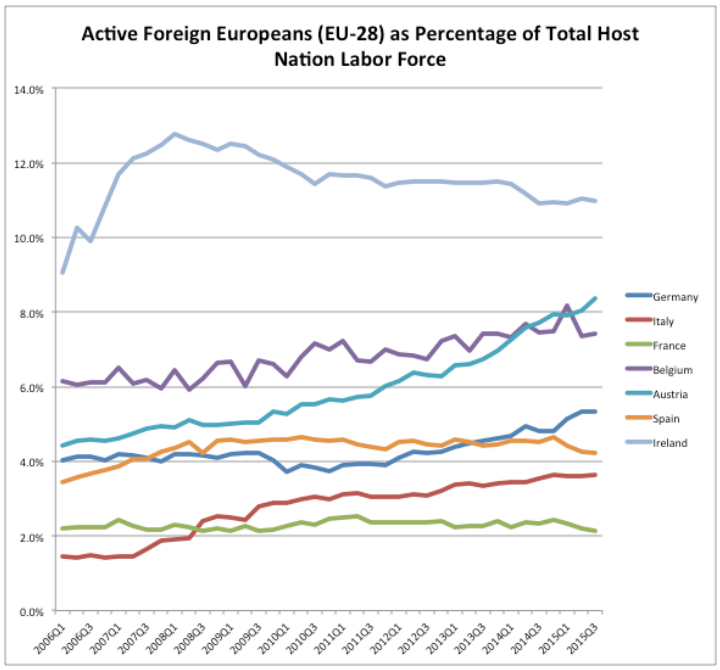


Figure 5 (Source: Eurostat)

population), are also those with the largest share of active foreign EU-28 nationals relative to their total labor forces (measured as active individuals aged 15-64) (Figure 5). Active, in this context, includes both the employed and unemployed. Included amongst these seven are the four largest Eurozone economies (Germany, France, Italy, and Spain, respectively), which are most likely to support large inflows, as well as medium-to-smaller economies that have accrued high

percentages of the studied populations relative to the size of their labor forces (Belgium, Austria, Ireland). The results of such an analysis relative to economic performance can help glean insight into how sensitive, flexible, and mobile European labor is.

Perhaps the most visible cases of labor market mobility are seen in Germany and Austria. The two make the strongest case that European labor is indeed relatively mobile and responsive to economic shifts.

## GERMANY & AUSTRIA

In 2009, Germany suffered a particularly sharp contraction in economic activity, with real GDP shrinking 5.6%, a movement quite large compared to France, which contracted only 2.9% in the same period. The German economy's export orientation helps explain this steep drop, as global demand for German goods temporarily dried up. The drop in Figure 1 reflects a relatively strong response to the German recession in the foreign EU-28 labor market. Yet its unemployment rate remained around 8% due to the swift enactment of fiscal stimulus measures to help combat unemployment, in which the German government essentially paid companies not to layoff workers (Schelkle, 2012). Though Germany experienced greater losses than some of its Eurozone neighbors, its recovery was by all comparative means quite robust, logging in growth of 4.1% and 3.7% in 2010 and 2011, respectively, and since then, has achieved moderate, if a bit lethargic, growth. Simultaneously, the German unemployment rate has fallen precipitously to its lowest levels in decades, from 8.2% 2009 Q1 (and much higher in the mid-2000s) to 4.5% in 2015 Q3. European labor, it seems, responded enthusiastically. From 2010 Q1 to 2015 Q3, Germany added to its labor force approximately 700,000 foreign EU-28 Europeans aged 15-64—a gain of 47% for the population. In this same period, the share of said population as a

percentage of the German labor force rose from 3.72% to 5.34%. In total, as of 2015 Q3, approximately 2.2 million foreign European Union individuals are active in the German economy.

Austria muddled through 2009 with a smaller contraction than many of its peers at about 3.8% of real GDP. While its rebound in 2010 and 2011, which realized gains of 1.9% and 2.8%, respectively, was relatively short-lived, giving way to sluggish growth since, the nation's economy appears to be on solid footing, particularly compared to its Southern European counterparts. Its unemployment rate has fluctuated within a quite narrow band, with a high of 6% in 2014 Q1 and a low of 4.1% 2011 Q3—figures no doubt enviable to many in the Eurozone. If not quite so robust as Germany, Austria has managed to generate macroeconomic stability that seems sufficient to entice Europeans to relocate. From 2010 Q1 to 2015 Q3, Austria added 150,000 foreign EU-28 Europeans aged 15-64 to its labor force, resulting in a total of approximately 370,000, or, an increase of 70%. As a result, the stated population currently accounts for 8.38% of the Austrian labor force, compared with 5.27% at the start of 2010.

## SPAIN AND IRELAND

Opposite to Germany and Austria are Spain and Ireland, two nations who have large foreign European populations, and have suffered severe recessions and stubbornly high unemployment since 2009. In both nations, the global recession seems to have arrived earlier than in other parts of the Eurozone, causing declines in 2008 rather than 2009, as the two were already viewed as more risky compared to their other Eurozone neighbors. Spanish real GDP contracted 3.6% in 2009, a relatively moderate figure. However, in the years following, Spain failed to recover, and actually continued contracting. In consequence, unemployment

skyrocketed from 9.7% in 2008 Q1 to a high of 27.1% in 2013 Q1, and current rests at 21.3%. As a result, the number of active foreign EU-28 individuals in the Spanish economy declined by 97,000 from 2010 Q1 to 2015 Q3, after an impressive growth of 300,000 in the four years leading up to the crisis. The massive influx of low-skill labor from Eastern Europe, particularly Romania, who were previously employed in the now decimated construction sector has now turned into mass unemployment, the effects of which continue to batter these vulnerable populations, as well as exacerbate the generally sour state of the Spanish labor market as a whole (Cala, 2010).

Ireland experienced a massive influx of EU nationals seeking work in the lead up to the crisis. From 2006 Q1 to 2008 Q3, a rather brief period of two and a half years, the number of foreign EU-28 individuals active in the Irish economy rose from 186,000 to 280,000. Labor responded positively to rapid growth in Ireland, which averaged approximately 6% per annum from 2005 to 2007. In the years following, the share of active foreign EU nationals aged 15-64 declined from 12.8% in 2008 Q1 to 11% in 2015 Q3, as GDP shrank and unemployment remained quite high.

C. Making an Assessment

How rapid and how large these flows of labor should be are, of course, the critical questions at hand. Yet, these have always been hard to pin down, as even Mundell knew in 1961, when he preferred to speak of the required degree of factor mobility to delineate a region as a "relative rather than absolute concept" (Mundell, 1961). However, after the preceding observations and analyses, one can draw certain conclusions with a degree of certainty. In order to qualify the Eurozone as having sufficient labor mobility, which is a critical criteria of an OCA,

one would expect from labor more rapid responses of greater magnitude. Thus, the Eurozone largely disappoints in meeting this criterion of an Optimum Currency Area, as specified by the classical theory.

The case of labor responsiveness to robust German growth over the past five or so years provides the most compelling evidence that labor mobility is a reality in the Eurozone. Austria, too, bolsters this argument, as European labor migrated there in relative correlation with low domestic unemployment and moderate real GDP growth. An encouraging sign is the trend that points to increasing intra-European labor mobility, as expressed by the heightened number of Europeans living and working in EU nations other than their own.

Yet, the overall picture remains quite unconvincing. As of 2015 Q3, foreign active Europeans (EU-28) aged 15-64 working in nations other than their own represent only 3.62% of the EU-28 labor force, and 3.91% of that of the Eurozone. It appears that European labor is more responsive to the positive dynamic, attracted by growth and low unemployment, than it is the negative one, in which both foreign and domestic labor leave struggling economies. Were labor more responsive to negative conditions, Spain, in particular, would have seen a more rapid decline in foreign EU labor and in its own excess labor, as reflected by unemployment. This leads to the larger issue of dramatically varying, and indeed divergent, national unemployment rates across the Eurozone. Classical OCA Theory suggests that such severe imbalances should not exist, or should not persist into the medium-term if labor can fulfill its mitigating roll by responding sufficiently rapidly to larger macroeconomic conditions. Thus, unemployment in Spain, which has remained above 20% since 2010, should prompt an exodus of labor to healthier European labor markets, such as Germany, Austria, the Netherlands, and Belgium. Yet, this has not been the case, or, at least, has not happened quickly enough to alleviate the dire conditions

that nation, and other Southern European nations, continue to face. Indeed, the crisis has only made matters worse, "the dispersion of unemployment rates increased dramatically due to the crisis, wiping out a process of fifteen years of convergence in less than two years" (Broyer, et. al., 2011). The positive relationship observed in the Eurozone between the dispersion of GDP growth rates and regional unemployment rates reflects insufficient mobility of the labor factor. Thus, labor is not responding adequately to the varied economic developments across the Eurozone, reducing its capacity as a legitimate asymmetric shock absorber and actually contributing further to intra-bloc fragmentation.

While one could reasonably conclude that classical OCA Theory may have overestimated labor's asymmetric shock absorbing capacities, it is important to note that Europe is in many ways its own special case. Labor mobility within the Eurozone and the European Union is inherently challenging for a number of reasons that mainly stem from the cultural diversity of membership and now geographic size of the bloc. Based on regular EU-wide surveys, the most important reasons for lack of mobility include: distance from family, language/cultural barriers, lack of information, and legal and administrative barriers. There is, it seems, more hope for younger generations who appear more comfortable moving and working abroad, many having participated in the popular ERASMUS study abroad program (Broyer, et. al., 2011). While the EU has continued its push to combat against certain social and economic factors that hinder labor mobility through initiatives such as the 2000 Lisbon Treaty, progress remains slow. European officials, it seems, always anticipated an inherent lack of labor mobility within the euro, "labour mobility - that is, geographical mobility - is unlikely to form a major mechanism of adjustment to asymmetric shocks within the euro area" (Patterson and Amati, 1998). Yet, it seems they sorely underestimated the importance of its presence. In the meantime, high persistent national

unemployment drives painful deflationary cycles for certain European economies, leading to falling wages and lower standards of living there.

In addition, it remains to be seen how socially and politically tolerable it is within Europe for labor to truly fulfill its asymmetric shock absorber role, which clearly requires a higher degree of trans-national movement and flexibility. Mundell and others envisioned a single, cohesive, and responsive labor market within an OCA, in which labor flows could alleviate temporary asymmetric shocks related to business cycle inconsistencies amongst member states. The reality of very large and seemingly permanent one-way flows of labor, of people, away from newer, smaller, and poorer member states (such as the Baltic States, Romania, etc.) towards more established, larger, and wealthier ones (the UK, Germany, etc.) is particularly troubling. In one of the most extreme cases, Latvia has lost in the past decade alone about 13% of its population following its accession into the EU and is on track to shrink even more dramatically by 2030 (Latvian Demographics, 2012). Migratory movements such as these have not only caused severe social and economic disturbances within the net-loss nations, but have had the unfortunate consequence of reigniting old suspicions and xenophobic attitudes in net-gain nations (particularly towards Romanians and other Eastern Europeans), a situation exacerbated by the intensifying extra-EU refugee situation and reflected in the rise of right-wing, anti-EU parties across the continent.

If labor mobility in Europe is clearly an insufficient absorber of asymmetric shocks, and shows few signs of future improvement, it is then the burden of supranational fiscal policy to tackle the Eurozone's most deep-rooted problems that have been driving towards its fragmentation, even dissolution, in recent years.

## VII. FISCAL INTEGRATION

*"An efficient fiscal system must be made to span many single product regions and should be coextensive with (or no larger than) a single, if non-optimal currency area" Kenen, 1966*

### A. The Theory

Kenen recognized quite early on the need for identical monetary and fiscal jurisdictions. There is in every economy an "optimal policy mix" between the monetary and fiscal jurisdictions that, when deployed correctly and in tandem, can effectively manage, or at least strongly influence, the outcomes related to employment and aggregate demand. Kenen makes the important distinction between the applications of these two policy weapons. While monetary policy is invariably "one size fits all," fiscal policy can target very specific pockets of economic irregularity or underperformance. He states, "if, further, a fiscal system does encompass many such [single-product] regions, it may actually contribute to internal balance… it is a chief function of fiscal policy, using both sides of the budget, to offset or compensate for regional differences" (Kenen 1966). Kenen goes on to make the case that large-scale transfers built into sophisticated fiscal systems are often closely connected to the labor market, which is a critical criterion delineated by Mundell (see section VI). A large budget spanning a number of single-product regions can combat specific and localized recessions, unlike the tools within the monetary arsenal.

Kenen also introduced the concept of economic sovereignty to the classical OCA debate. According to Kenen, an individual country loses some of its economic sovereignty when it gives up the right to set its own monetary policy. The implications of this are sufficiently explicit to the average observer. However, in the absence of this monetary authority, should a sophisticated supranational fiscal system emerge, the losses of economic sovereignty may be reasonably justifiable. Indeed, Kenen states, "a region may come out ahead by foregoing the right to issue its own currency and alter its exchange rate, in order to participate in a major fiscal system" (Kenen 1966). In addition, should the joining member be a smaller, more open economy, the nation may in effect regain some of this economic sovereignty by sharing in decisions concerning their monetary arrangement that would have been otherwise decided without them, an argument Mundell makes in his 1969 paper.

B. The European Reality

The development of a true supranational fiscal system in Europe has been among the most politically contentious propositions associated with the larger project of European integration. The most binding and perhaps unfortunate expression of the attempt at fiscal "integration," if one were inclined to call it such, comes in the 1992 "Treaty on European Union," or, more popularly, the Maastricht Treaty, and then later refined in the Stability and Growth Pact. Article 104c.1 reads, "Member States shall avoid excessive government deficits," which are to be monitored by the European Commission. In the case that such a deficit exists, the Commission (104c.2) "shall examine compliance with budgetary discipline" on the basis of whether said deficit is (a) exception and temporary, or (b) approaching with satisfactory pace the "reference value" of government debt to GDP. This value is observed to be at 3% of GDP.

Should the Commission find in its analysis that the Member State meets neither requirement, it will issue a report on its findings and recommendations, which, if not adhered to, may later be followed by inviting the "European Investment Bank to reconsider its lending policy toward the Member State" or by imposing "fines of an appropriate size" (Treaty on European Union). While other bodies and policies exist to foster some form of overarching fiscal structure amongst the Eurozone, it is these sections of the Maastricht Treaty that continue to define the state of fiscal integration in the currency area.

Although the Maastricht Treaty and the Stability and Growth Pact dominate the fiscal agenda, incremental steps have been taken at the supranational level to help promote cohesion and development across the EU. The European Structural and Investment Funds, known collectively as ESI, is a set of five funds working together to achieve EU-wide priorities. They will provide around EUR 450 billion of EU funding from 2014 to 2020, focusing on high impact investments in areas such as infrastructure, research and development, and training/retraining programs. The European Parliament also launched the European Fund for Strategic Investments (EFSI) in mid-2015, in order to tackle the significant deficit in private investment in recent years, which remains 15% below pre-crisis levels. Working with previously established institutions such as the EIB Group, the EFSI will operate with a higher risk-taking capacity to help activate at least EUR 315 billion in the next three years, in an effort to also stimulate private financing in SMEs (ESI, EFSI Funds, 2016).

### C. Making an Assessment

Considering all other classical OCA Theory criteria, the requirement for some degree of fiscal integration among the currency area is the one most grossly unachieved, and remains a

primary obstacle to solving the persistent asymmetries across Europe following the Global Financial Crisis. The Stability and Growth Pact has clearly been insufficient in promoting the right kind of domestic fiscal apparatuses capable of responding to crises. In a speech he gave in late-2014, ECB President Mario Draghi himself acknowledged this, saying,

> The importance of each country sticking to its commitments under the Stability and Growth Pact should therefore be beyond debate. Indeed, that a sound fiscal framework is *necessary* in a monetary union goes without saying. Whether it is *sufficient* to safeguard fiscal policy as a stabilisation tool, however, has been challenged by our experience during the crisis" (Draghi, 2014)

The reticence surrounding the failure of the Pact is still visible, yet policymakers now are much more likely to recognize the faults in this kind of approach to fiscal policy. Indeed, the most potent policies of the Eurozone related to the fiscal realm are primarily punitive and often are damaging to member states that are struggling most. The regime of fiscal "discipline" comes at a high cost, and suggests that economic sovereignty is far from retained by national control over domestic budgetary matters. In the absence of a larger, supranational fiscal structure and the presence of rather restrictive rules concerning national budgets, Eurozone members find the fiscal policy tool severely blunted. A system based on austerity-oriented rules, rather than strong supranational institutions seems to have exacerbated for many member nations the severity of their own crises. As Kenen well knew, joining a monetary union required potential member nations to weigh losing a certain amount of economic sovereignty against the possible gains at stake. Autonomous and effective domestic fiscal policy, in addition to more global supranational

policy tools, was always the counter-argument to those who believed the loss of said sovereignty would be too great in sharing a common currency. It appears, however, that not only are there now few potent supranational fiscal weapons against asymmetry, but that nations themselves are quite restricted in conducting their own fiscal policy and responding to malaise within their own borders that may call for more drastic action. The supposed intrinsic value of fiscal policy is its ability to tackle more specific, idiosyncratic issues appearing in the larger economy. It is monetary policy that must necessarily be "one size fits all." Yet, Eurozone nations may have also lost fiscal policy too, not only due to the binding Maastricht regime, but also due to the lack of the natural interplay between fiscal and monetary policy—the "mix" to which Kenen alluded. Drastic fiscal policy moving out of tandem with monetary policy may be either (1) ineffective or (2) damaging to the larger price stability.

Indeed, the Global Financial Crisis has exposed the Eurozone's deep structural issues that have left member nations vulnerable to asymmetric shocks, lacking the policy tools to combat persistent conflagrations. In fact, the policy prescriptions for some of Europe's most severely hit nations ended up compounding their troubles, as rapid cuts in public spending in order to reduce soaring budget deficits crippled demand and propelled deflationary cycles. The austerity measures directly following the aftermath of the financial crisis seem to have contributed to divergence within the common currency, as "periphery countries" such as Greece and Portugal slipped further into recession and thereby damaged their own recovery (Stehn, et. al.). As widespread yet idiosyncratic issues continue to flare up across the Eurozone, it has become increasingly clear to many policymakers that better coordinated, and in fact, integrated fiscal policy will be necessary to ensure a brighter future for the euro. So far, however, Europe's half-hearted attempts at fiscal integration have yielded little for most member nations, and have failed

to provide the kind of larger scale fiscal transfers that Kenen believed were necessary for an Optimum Currency Area. While the US, a relatively well-functioning OCA, has collected taxes at the federal level for the past 50 years of around 17% of its GDP, the European Union currently collects only about 1% of its GDP. Such a small supranational fiscal budget, relative to the size of the crises afflicting a number of its member nations, is bound to fall short of achieving any truly impactful results (Feyrer and Sacerdote, 2013). Only a significant increase in the size and scope of the EU budget would realize the creation of true supranational fiscal policy, or, that is to say, the creation of true fiscal union.

Yet, the political climate surrounding closer fiscal union remains almost toxic, and may continue to deteriorate. In May 2015, President Francois Hollande reiterated his calls for closer fiscal and political union, saying, "that which threatens us is not the excess of Europe, but its insufficiency" (Le JDD). Hollande's plan includes long discussed proposals such as a Eurozone government with its own budget under a new parliament accountable to the people. The reassertion of this now highly alternative European vision seems, however, to have been relegated to the back burner at best, as German and other more traditional opposition, who typically stress "fiscal discipline," have all but outright rejected the idea (Dixon). Given the relatively weak reception of this new vision for Europe, it remains unclear whether Francois Hollande can unite a coalition of nations favoring centralization, such as Italy, in promoting a new phase of integration. Furthermore, as populist anti-European Union sentiment continues to grow across the bloc (not least within France itself, represented by the now popular "Front National"), such fiscal and political centralization seems politically untenable.

## VIII. CONCLUSION

Throughout this paper I have sought to address the current malaise in Europe through the very particular lens of classical Optimum Currency Area Theory. Through this, it has been revealed that the Eurozone is not "optimal" or "suboptimal" for a number of reasons, chief among them being the straining effects of persistent asymmetry throughout the common currency area. It is particularly worrying to see nineteen different nations move in directions very different from one another, as some grow robustly and others remain mired in recession. The fate of those living under the common currency seems now to rely on more than ever which nation within the Eurozone one inhabits, a reality far from the "economic and social cohesion and solidarity among Member States" once envisioned in the 1992 Treaty on European Union. The euro is, in many ways, at a critical crossroads between further fragmentation and a push towards greater union. Without action, current economic dynamics seem sure to result in the former. Yet, this paper has also identified areas of improvement for the Eurozone that may alleviate these very large gaps in national performance and help build a stronger euro around stronger central institutions with more sophisticated policy tools. While Eurozone labor mobility may never reach its potential as classical OCA Theory defined it, there is hope that younger generations will be more comfortable moving and working elsewhere in the currency area while hopefully maintaining cultural roots at home, following the recently battered yet still powerful EU motto, "United in Diversity." More critical to the future viability of the euro, however, as this paper has argued, is the need for policymakers to drive towards closer fiscal integration in the form of a fiscal union. The failure of the Stability and Growth Pact is painfully evident, as restrictive rules combined with a harsh ideological tendency towards austerity handcuffed the policymakers of the most severely impacted nations in the fallout of the 2008 Global Financial Crisis, the effects

of which are still being played out today. The Maastricht regime is neither fiscal integration, nor a productive means to an “ever closer union,” unless it is accompanied by a larger supranational fiscal system. Classical Optimum Currency Area Theory has elucidated Europe’s contemporary problems; it is now up to contemporary policymakers to lead the Eurozone to a brighter future.

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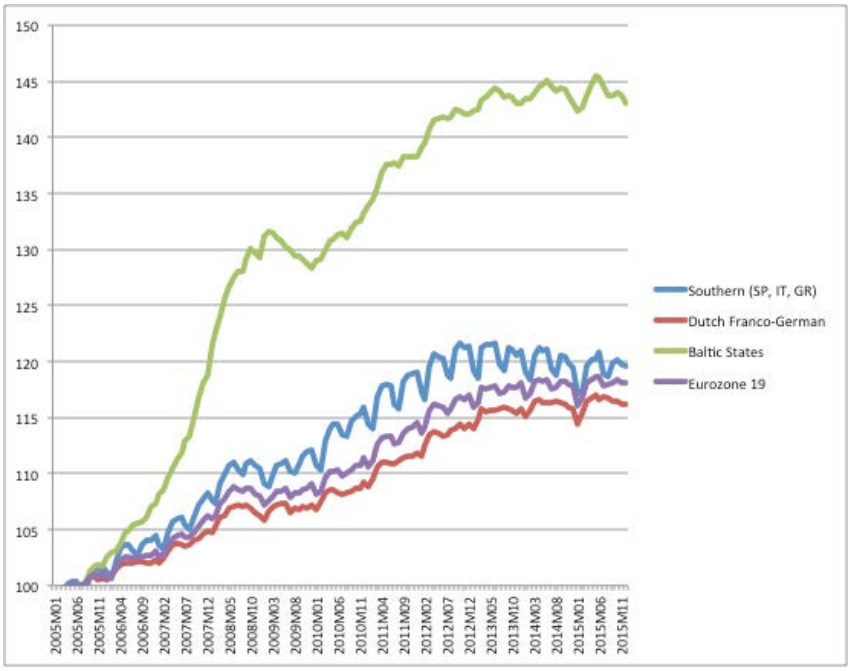
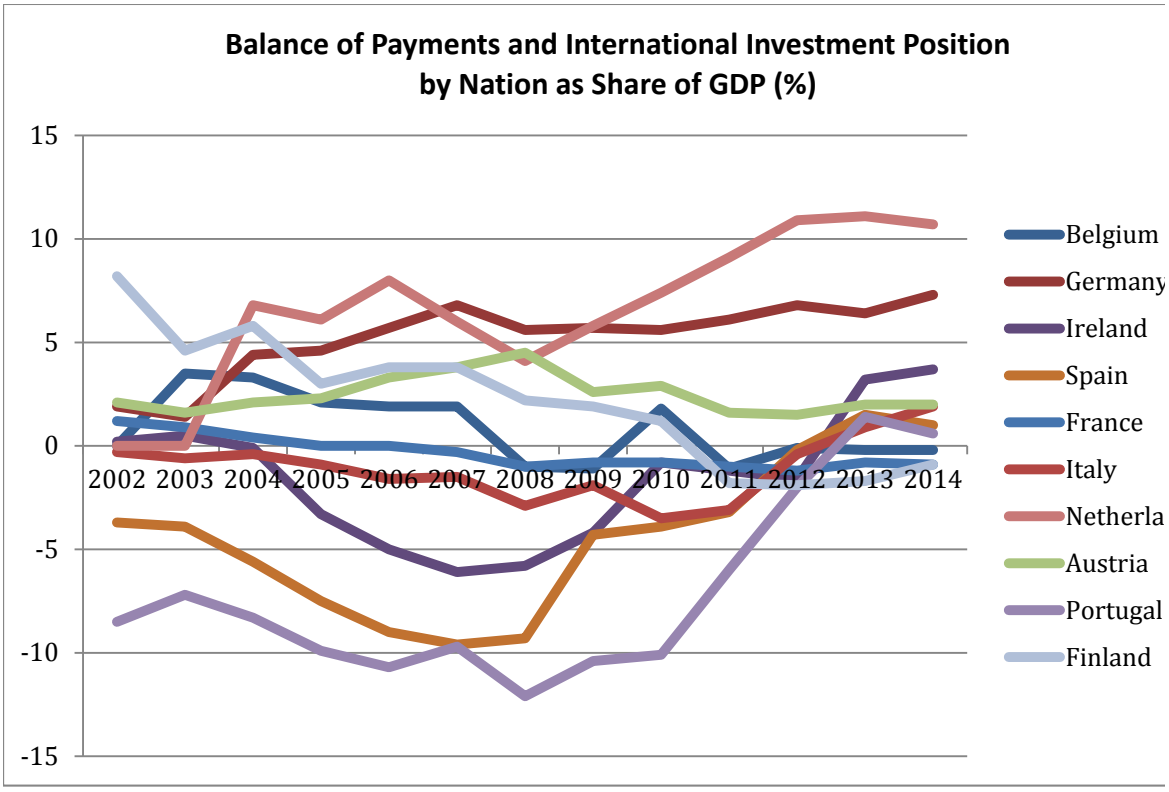
Appendix and General Reference

A. Inflation Rates of various groupings (Source: Eurostat)




B. Balance of Payments and IIP by nation as share of GDP (Source: Eurostat)



C. Exports as share of GDP (Source: Eurostat)

| Exports of goods and services in % of GDP<br>geo\time | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|
| EU (28 countries) | 39.1 | 34.9 | 38.6 | 41.4 | 42.6 | 42.9 | 43.1 | 43.5 |
| EU (27 countries) | : | : | : | : | : | : | : | : |
| Euro area (changing composition) | 39.5 | 34.8 | 38.9 | 41.8 | 43.5 | 43.9 | 44.6 | 45.7 |
| Euro area (19 countries) | 39.9 | 34.9 | 39 | 41.9 | 43.7 | 44 | 44.7 | 45.7 |
| Euro area (18 countries) | 39.8 | 34.9 | 39 | 41.8 | 43.6 | 43.9 | 44.6 | 45.6 |
| Euro area (17 countries) | : | : | : | : | : | : | : | : |
| Belgium | 79.7 | 69.3 | 76.4 | 81.6 | 82.3 | 82.2 | 84 | 83.2 |
| Germany | 43.5 | 37.8 | 42.3 | 44.8 | 46 | 45.5 | 45.7 | 46.9 |
| Estonia | 66.8 | 60.8 | 75.1 | 86.5 | 86.6 | 86.8 | 83.9 | 79.8 |
| Ireland | 84.2 | 93.6 | 103.1 | 101.2 | 107.2 | 106.7 | 113.7 | 121.4 |
| Greece | 23.4 | 19 | 22.1 | 25.5 | 28.7 | 30.6 | 32.7 | 30.1 |
| Spain | 25.3 | 22.7 | 25.5 | 28.9 | 30.6 | 32 | 32.5 | 33.1 |
| France | 27.4 | 24.1 | 26 | 27.8 | 28.5 | 28.5 | 28.7 | 29.8 |
| Italy | 27 | 22.5 | 25.2 | 27 | 28.6 | 28.9 | 29.5 | 30.2 |
| Cyprus | 50.6 | 49.2 | 50.4 | 52.3 | 53 | 58.2 | 60 | 59.9 |
| Latvia | 39.6 | 42.6 | 53.7 | 58 | 61.5 | 60.4 | 59.5 | 58.8 |
| Lithuania | 57.1 | 51.9 | 65.3 | 75 | 81.7 | 84.1 | 81.2 | 77.3 |
| Luxembourg | 189 | 166.5 | 179 | 185.6 | 189.2 | 195.6 | 203.3 | 213.8 |
| Malta | 148.5 | 147.7 | 153.3 | 159.7 | 164.2 | 155.8 | 148.1 | 141.5 |
| Netherlands | 71.6 | 63.2 | 72 | 77.4 | 81.9 | 82.6 | 82.9 | 82.8 |
| Austria | 53.2 | 44.9 | 51 | 53.7 | 53.8 | 53.2 | 53.2 | 53.4 |
| Portugal | 31.1 | 27.1 | 29.9 | 34.3 | 37.7 | 39.5 | 40 | 40.3 |
| Romania | 26.9 | 27.4 | 32.3 | 36.8 | 37.5 | 39.7 | 41.2 | 40.9 |
| Slovenia | 66.1 | 57.2 | 64.3 | 70.4 | 73.3 | 75.2 | 76.5 | 77.8 |
| Slovakia | 80.2 | 67.8 | 76.6 | 85.3 | 91.8 | 93.8 | 91.9 | 93.8 |
| United Kingdom | 27.7 | 26.8 | 28.6 | 30.7 | 30.1 | 30 | 28.3 | 27.4 |

*I have not witnessed any wrongdoing, nor have I personally violated any conditions of the Skidmore Honor Code while taking this examination.*